

A. Incident Command

General Background: Incident Command

Incident Command System (ICS), "is a management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to enable effective and efficient domestic incident management."⁷ The ICS structure facilitates incident response through five major functional areas: command, operations, planning, logistics, and finance and administration.

Command, under ICS, is established clearly at the beginning of an incident with the ability to transfer command throughout the course of an incident. The Incident Commander determines response strategy and establishes a clear chain of command, or orderly line of authority within the incident management organization. Operations includes the specific tactics used to carry out the Incident Commander's declared strategy. Planning includes the forward-thinking efforts needed to manage an incident, such as developing Incident Action Plans for the upcoming operational period and situation reports of what occurred through the previous period. Logistics pertains to the process of moving resources from one area to where they are needed, such as identifying food and water vendors or resources and establishing a rehabilitation area with food and water. Lastly, the finance and administration section covers items such as procurement and oversight of employee time and incident cost.

ICS has been used, to varying degrees, by first responders since the 1970s. Developed largely by California firefighters after the 1970 fire season, which severely taxed response agencies in Southern California, ICS was intended as a, "system which would provide uniform terminology, procedures, and incident organization structure required to ensure effective coordinated action when two or more agencies are involved in a combined effort."⁸

Over subsequent decades, fire departments and other response agencies implemented ICS into their day to day practices. In 2004, the United States Department of Homeland Security established the National Incident Management System (NIMS), which incorporated ICS and officially made it the national standard for organizing incident response.⁹

⁷ Incident Command System, U.S. FIRE ADMIN., <https://apps.usfa.fema.gov/thesaurus/main/termDetail?id=1304&letter=I> (last visited Nov. 12, 2018).

⁸ History of ICS, EMERGENCY MGMT. SERV. INT'L (EMSI), <http://www.emsics.com/history-of-ics/> (last visited Nov. 12, 2018).

⁹ Jessica Jensen & Steven Thompson, The Incident Command System: A Literature Review, 40 DISASTERS 158-182 (2016).

Policies and Standards Applicable to Howard County Department of Fire and Rescue Services: Incident Command

The Howard County Department of Fire and Rescue Services officially adopted the Incident Command System in 2005 through [General Order 300.07: Incident Command System](#).¹⁰ This order defines a number of critical terms, such as Personnel Accountability Report (PAR), the Hazard Zone, Follow-Up (Basement) report, and MAYDAY. Additionally, it establishes three distinct Modes of Command: Investigation, Tactical, and Strategic.

Investigation Command Mode occurs on initial arrival at an incident, when Command is on scene and determining the exact nature of the incident and level of response required. The Incident Commander operating in this mode conducts a "Size-Up" report to others arriving on scene. Tactical Command Mode is an early command posture that precedes the Strategic Command Mode if there is no chief or command level officer on scene. In Tactical Command Mode, the Incident Commander is "typically a company officer that is performing all the responsibilities of Command while on-foot and from within the tactical environment."¹¹ While Tactical Command Mode operates near the Hazard Zone, they are not committed within an IDLH or area with conditions that could rapidly deteriorate. Strategic Command Mode occurs when there is a chief or command level officer established as Incident Commander outside of the tactical environment and within an atmosphere conducive to managing the functions of Command.

Beyond [General Order 300.07: Incident Command System](#) that provides a broad overview of ICS within HCDFRS, HCDFRS [General Order 310.01: Single Family and Townhome Structure Fire Operational Guidelines](#) provides more specific ICS guidance for residential fire incidents. Under [General Order 310.01: Single Family and Townhome Structure Fire Operational Guidelines](#) the first arriving officer on scene will operate in Investigation Command Mode. In this posture, the first officer on scene will assess the situation and transmit an Initial Radio Report. The Initial Radio Report communicates the IC's assessment of the scene, determination of overall strategy, and clearly establishes Command. [General Order 300.07: Incident Command System](#) details specific items that must be included in the Initial Radio Report are:

- Unit identification and arrival to the scene
- A description of the structure and area
- A description of the problem, including location, conditions, apparent life-safety concerns, and special circumstances
- Initial incident action plan taken by the first arriving unit
- Declaration of strategy for the incident (i.e. units operating in offensive strategy)
- Clearly naming the command and command mode
- Determination of resource need, considering escalation of alarms

¹⁰ HOWARD CO. DEP'T OF FIRE AND RESCUE SERV. GENERAL ORDER 300.07 INCIDENT COMMAND SYSTEM (2013).

¹¹ HOWARD CO. DEP'T OF FIRE AND RESCUE SERV. GENERAL ORDER 300.07 INCIDENT COMMAND SYSTEM (2013).

- Continuation with Incident Action Plan work assignments for arriving units
- At the point of assuming command, the first arriving officer becomes the Incident Commander in Tactical Command Mode and remains Incident Commander until the arrival of Command rank officers, such as Battalion Chief 1. When a Command officer arrives, the initial Incident Commander will typically transition Command to the Command officer. With a Command officer in charge the Incident Commander Command Mode shifts to Strategic Command Mode.

Woodscape Drive Incident Overview: Incident Command

The first unit on the scene of 7005 Woodscape Drive was Engine 51, with Engine 51A assuming the role of Incident Commander as the first arriving officer. Engine 51A assessed the situation and transmitted the Initial Radio Report at 02:00:29 stating, "51 to Howard single family two story, smoke showing, go ahead and start a box." As the Incident Commander, Engine 51A then directed Tower 10 to the front of the structure and started a full box alarm.

While in transit to the incident scene, Battalion Chief 1 directed Engine 51 to reposition to the rear of the property to see if they were able to use the swimming pool as a water supply. Engine 51 repositioned to the upper level of Side C, deploying a 200-foot line. Engine 51 advised Command of their position on Side C and that the homeowner advised of heavy smoke in the basement. At that time, Engine 51 entered the structure on Side C on the upper level, but did not relay their location, actions, observed conditions, and subsequent withdrawal to Battalion Chief 1.

Battalion Chief 1 arrived on the fireground and radioed that he was assuming Command and committing to an offensive strategy at 02:03:55. The Incident Commander then directed Engine 51 and Tower 10 to commit to Fire Attack and advised Engine 51A on the status of the water supply. The Incident Commander also requested a visible report from Side C from the basement as soon as possible. At that point, the Battalion Aide began a 360-degree assessment of the incident scene in order to report to the Incident Commander.

Reporting back to the Incident Commander, the Battalion Aide stated that the structure had two stories on Side C with a glass slider for access to the finished basement. The Battalion Aide also stated that there was smoke visible in the basement. At 02:07:06, Tower 10D advised the Incident Commander that there was smoke at the ground level at Side A. At approximately the same time, Engine 51's crew were a few feet inside the laundry room door when Engine 51E and Engine 51B saw indications of a basement fire on their thermal imaging cameras. After that observation, Engine 51 withdrew from the upper level of Side C to redeploy to the lower level of Side C. Although the information from the TICs was relayed to the Fire Attack Group Supervisor, it was not relayed to the Incident Commander. Rather, the Fire Attack Group Supervisor radioed Command stating that they needed to re-examine access through the basement slider. Engine 51B then redeployed the 200-foot line to the lower level of Side C, quickly finding that it was not long enough. At that point, Engine 101 was also on scene and assisting Engine 51. FF Flynn helped deploy a 300-foot line to the lower level of Side C.

At 02:09:27 Engine 71A radioed Command of their impending arrival to see if they were needed on scene or to acquire a secondary water supply. Command instructed Engine 71A to bring secondary water from a neighboring street. At 02:12:41 hours Command notified all units that all three occupants of the home had evacuated the structure, there was no change in operational posture from Command at that time. At 02:15:30 hours Engine 51 and Tower 10 advise that they are unable to find the fire. Shortly thereafter, Engine 101A relayed to Command that they saw fire on the first level of Side C. In response to Engine 101A, the Incident Commander asked

whether it was possible to “hit the fire from the exterior.” Engine 101A replied that they needed to redeploy their line back to the initial entrance, referring to the upper level of Side C although that was not clear to the IC.

During the communication between Engine 101A and Command there was uncertainty as to Engine 101’s position, with the Incident Commander asking for Engine 101A to confirm their location at 2:17:16. Tower 10 responded to Command’s clarification request, stating that Engine 101 and Engine 51 were making entry in Quadrant 2 with crews having made access to the basement, experiencing smoke conditions, and closing the basement door to restrict airflow. Tower 10 advised that the only crews present should have been on the first level of Side C. At 2:18:24 hours the Incident Commander directed Truck 7 to assume RIC duty and that they have Engine 51, 101 and Tower 10 making entrance on Side C.

At 2:20:47 Engine 101A declared MAYDAY, although it was unclear to Command whether it was Engine 101A or Engine 101B in MAYDAY. After clarifying with the Communications Center and Engine 51A, the Incident Commander determined that FF Flynn was in MAYDAY and was deploying the RIC.

Findings and Recommendations: Incident Command

After holistically assessing Incident Command during this incident, the ISRB determined that the Incident Commander acted in a reasonable and prudent fashion. However, the ISRB did identify several systemic failings of HCDFRS's implementation of ICS that contributed to, but did not cause, FF Flynn's Line of Duty Death.

First, HCDFRS does not have a clear and consistent command philosophy. [General Order 300.07 Incident Command](#) describes three modes of command (Investigation, Tactical, and Strategic) without establishing a clear command philosophy. Investigation Command, functionally describes sensemaking of a potential incident scene with a notional decision maker on site. It does not provide any clear philosophy of either order-based or mission-based tactics, presumably allowing the Investigation Incident Commander to use their personal command philosophy. Tactical Command Mode and Strategic Command Mode both require the Incident Commander to establish the overall incident strategy, establish objectives, evaluate the need for additional resources, as well as direct and assign responding resources upon arrival. These requirements blend both command philosophies, having the Incident Commander establish the strategy and objectives (mission-based) as well as directly manage assets and resources (order-based). The notable difference between Tactical Command and Strategic Command is the location of the commander (within the Hazard Zone or outside the Hazard Zone), which changes the environment of the Incident Commander but provides no guidance on command philosophy for the department.

Second, under [General Order 300.07 Incident Command System](#) the first arriving officer is the Incident Commander, however that officer may elect to pass command to a command officer or chief if that command officer is arriving nearly simultaneously. The ISRB finds this practice flawed because it requires the arriving officer to be aware of not only their crew, their actions, and the scenario they face, but to also be aware of other units. During this incident, there was approximately a 3.5-minute delay between Engine 51A and Battalion Chief 1 arriving on the scene. Despite the delay, Engine 51A neither formally established command nor affirmatively passed command. Although Engine 51A's failure to establish command likely did not impact this incident, the ISRB recommends that [General Order 300.07 Incident Command System](#) be revised to state clearly that the first arriving officer on the scene is the Incident Commander until they are relieved by a Command Officer.

Third, the current practice of officers operating without direct knowledge of the hazard zone is insufficient. As demonstrated by this incident, the current application of ICS by HCDFRS places structures around Command that separate the Incident Commander from the hazard zone. For example, Battalion Chief 1 arrived on scene and assumed command in accordance with [General Order 300.07 Incident Command System](#) without completing a 360-degree survey of the incident or having a transition briefing from the first arriving officer. In this instance, the Incident Commander relied on an aide to take pictures and relay information back personally without completing a 360-degree survey of the incident scene. Had the Incident Commander completed their own 360-degree survey of the incident scene, they may have created a stronger mental

model to understand the location of the crews within the structure, particularly in regards to the different points of entry on Side C.

Fourth, the current practice of announcing the incident strategy during the Initial Radio Report is flawed. By declaring an offensive strategy on immediate arrival, before the commander can make sense of the situation, makes it more difficult for the Incident Commander or other firefighters to assess what strategy best fits any particular incident.

Fifth, there are multiple areas where [General Order 300.07 Incident Command System](#) and the [General Order 310.01 Single Family and Townhouse Structure Fire Operational Guidelines](#), when read together, do not run parallel and could confuse the reader. There are multiple areas where a lack of clarity will hamper accountability and the presence of confusion is detrimental to operational consistency.

Sixth, [General Order 300.07 Incident Command System](#) does not align with the NFPA 1561 Standard on Emergency Services Incident Management System and Command Safety guidelines for effective command. Under NFPA 1561 guidance, “[s]upervisory personnel shall work toward assigned objectives, within the overall strategy defined by the incident commander.” (NFPA 1561 5.8.3.1). Additionally, “[t]he incident commander shall develop the incident objectives from the situational assessment and form applicable strategy and tactics...” (NFPA 1561 8.9.1.3). Under [General Order 300.07 Incident Command System](#), however, the Incident Commander establishes and communicates a general strategy (offensive/defensive) instead of stating the objectives for the incident. For example, when Battalion Chief 1 established command he announced an offensive strategy and in so doing decided, with very little information, on how close personnel were going to get to the structure. However, based on what appears to be common practice, there was a disconnect between what he intended by that statement and what was in writing in the General Order.

Based on a totality of available evidence, it is reasonable to assume that Battalion Chief 1 meant that operations were going to be centered around making an interior attack on the fire. This can be supported by [General Order 310.01 Single Family and Townhouse Structure Fire Operational Guidelines](#), which defines offensive and defensive differently in the Risk Management Plan,

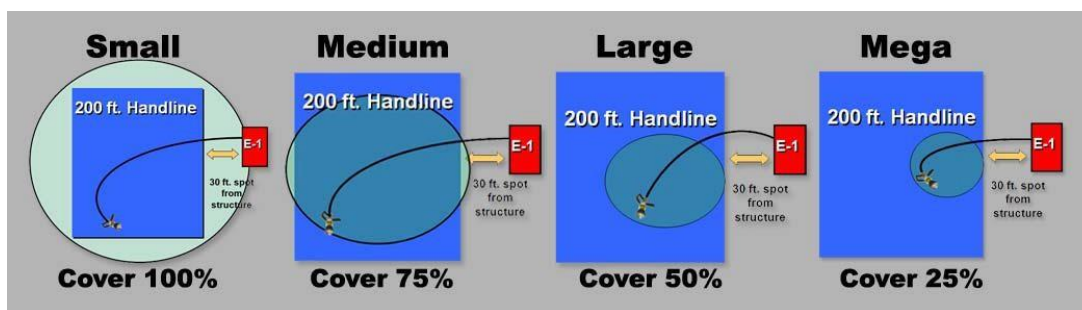
“If there is a possibility that there are savable lives inside a structure, and it is reasonably safe to conduct offensive interior firefighting, the offensive strategy is appropriate. If fire conditions indicate that the interior of the structure is not survivable or that interior firefighting would not be reasonably safe, interior firefighting is not an option, and the defensive strategy is required.”

This is a very different thought process than the one embedded in the same General Order. In this case the implication is that offensive operations are synonymous with interior firefighting. However, the definition found in the risk management section ties savable lives AND reasonable safety together such that both are required to support interior firefighting.

While the intent of the policy and the delineation of the strategies can be inferred by a reasonable person, the lack of clarity hampers accountability. Relying on a binary approach to strategy (inside/outside the hazard zone) denies the inherent complexity and variability on the fireground. The fireground is not static. Strategy is the general approach taken to meet objectives and as such complex operations are almost always in a state of transition. Reducing strategy to two choices and tying those choices to proximity unnecessarily restricts the tactical options available to the Incident Commander.

Seventh, the Battalion Aide performed tasks outside of the Command Post which may have impacted Command's understanding of the incident. According [General Order 300.07 Incident Command System](#) the command aide should not be assigned to task level assignments during emergency incidents. The paramount goal of this resource is to increase the effectiveness of Command. At this fire, however, the Battalion Chief 1 aide performed multiple tasks outside the command post, including a size-up, looking for the homeowner to get keys for the basement door, and assisting with the deployment of the hydraulic line from Engine 51. According to the definition, he operated outside of his designed role.

Eighth, although the intent of [General Order 300.07 Incident Command Systems](#) description of structure sizes is "to minimize ambiguity" it is not effective in practice. [General Order 310.01 Single Family and Townhouse Structure Fire Operational Guidelines](#) advises to describe the size of structures using relative sizes of Small, Medium, Large, and Mega, based on the ability of a 200-foot hose line being able to reach 100%, 75%, 50%, and 25% of a structure, respectively, if the engine is parked thirty (30) feet from the structure. This sizing convention is depicted below:



Establishing the size of a structure under HCDFRS [General Order 310.01 Single Family and Townhouse Structure Fire Operational Guidelines](#) is based on a square structure. This process does not provide any information to the incoming units as to the length or width of the structure that would allow the officer to plan for which hose line would need to be pulled to access various areas of the structure. Nor does the process provide information that would allow the officer to plan for optimum positioning of their apparatus in order to reach their intended or designated target with their provided hose lines. For example, if the assignment is to pull a hose to enter through Side C of the structure, there is no reference to the distance around the structure to get to the Side C entrance. However, if the structure description included the

approximate size (i.e. 70-feet x 40-feet), the incoming officer would be able to estimate which hoses would be necessary to reach the rear of the structure based on their parked position on the scene.

To illustrate, with the above-mentioned dimensions, if the engine parks on the street 50-feet out from the A/B corner and needs to enter the center Side C door with enough hose to access either end of the basement, the officer can quickly determine that this can be accomplished with a 200-foot line. Conversely, if they were parked at the A/D corner and the entrance is on the B/C corner of Side C, they would need a 300-foot line. These factors are important, as they affect positioning to assure the available hoses can reach the intended target or task without excess hose being deployed which can lead to kinks that reduce flow, or a hose that is too short to reach the fire.

Ninth, the Incident Commander did not have a full orientation to the incident. This is demonstrated in his Command Chart, a shorthand visualization of the incident, which did not clearly indicate the elevation change. He was not aware of the front to back elevation change on Side C, which was not articulated clearly from units on the scene. While the intent of vehicle-based command is understood, there are times when it is more important for the Incident Commander to have a good orientation to the scene than for the Incident Commander to remain stationary. In this case, where it was clear that the Incident Commander had on-going uncertainty about the size and scope of the incident, it is likely that had he conducted a 360-degree check of his own that check would have resolved outstanding questions.

The ISRB understands that a consensus exists that would discourage Incident Commanders from leaving the command post. However, effective orientation is more critical to incident outcomes than maintaining a stationary command post. When the Incident Commander leaves the Command Post they must understand that they are operating at a deficit and that making such a move increases the risk of missing critical transmissions. Whenever an Incident Commander chooses to leave the command post they should announce that fact to the fireground and should whenever possible leave someone stationary at the Command Post to monitor radio traffic.

Tenth, the use of the term Fire Attack implies that the supervisor of that group is responsible for all Fire Attack regardless of where it is occurring. Given the size and complexity of the structure at 7005 Woodscape Drive, the Fire Attack group made a single person responsible for three levels and more than 8,000 square feet—at least 2.5 times the size of a typical single-family homes as defined by NFPA. Practically, Incident Command dividing the structure into divisions and assigning leaders to each division would have made the Fire Attack function more manageable, as appropriate resources arrived. This would also have enhanced crew accountability.

Eleventh, the Incident Commander's attention was diverted from providing tactical RIC orders to companies in close proximity to the MAYDAY by conducting a PAR check. While the PAR is important, it was more important to ensure that rescue operations were underway. Once the

MAYDAY was sounded the RIC was dispatched to assist and knowing how many people were trapped would not have altered their approach and given that there were no other resources immediately available on the fireground to assist, Command could not have augmented the staffing of the RIC even if he wanted to, because there was no one else to send.

Lastly, but critically, the Incident Commander maintained a calm demeanor during the RIC operation, which likely contributed to the overall success of the RIC operation. A major and repeated issue in other fire department line of duty deaths is the failure of the Incident Commander to maintain a calm demeanor. The Incident Commander in this instance did an exceptional job in maintaining composure throughout the MAYDAY.

Findings	Recommendations
A.1 The current HCDFRS policy permitting the first arriving unit officer to forgo establishing command when, “A chief, command officer, or other company officer is arriving nearly simultaneously and takes Command” is flawed. The first arriving unit must assume command regardless of circumstance, so that there is always clear command and control of the scene. The formal announcement of command does not add anything to the exercise of the command.	A.1.1 HCDFRS General Order 300.07: Incident Command System and General Order 310.01: Single Family and Townhouse Structure Fire Operational Guidelines should be amended to clearly establish the first arriving unit officer as the Incident Commander, eliminating the circumstances when Command may be passed. Instead, the unit officer as Incident Commander may transition to a Command level staff once the Command officer reaches the incident scene
A.2 Declaring an offensive or defensive strategy during the initial radio report is insufficient since it does not allow the Incident Commander to gain a firm sense of the incident before declaring a strategy.	A.2.1 The Initial Radio Report protocol should be amended, removing the requirement that the Incident Commander declare an offensive or defensive strategy. Instead the strategy should be announced after the Incident Commander gains sufficient information from the scene (e.g. the 360-degree assessment completed) to establish a strategy.
A.3 The Incident Commander did not have a strong mental model of the incident, likely because of current HCDFRS practice of Incident Commanders relying on aides to complete a 360-degree assessment of	A.3.1 The Incident Commander should complete their own 360-degree assessment of the incident to establish their mental model.

Findings	Recommendations
the incident instead of conducting it themselves.	
A.4 The Incident Commander maintained a calm demeanor during the MAYDAY.	No Recommendation